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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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**OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES**

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**REVIEW of NEW USES**

**DATE:** February 07, 2000

**SUBJECT:** Myclobutanil (NOVA 40W) on New Uses (Tomatoes and Cucurbits), Expanded Uses (Pome Fruits), and IR-4 Uses (Asparagus, Caneberry, Currants, Gooseberries, Mint, Snap Beans, and Strawberries)

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The Environmental Risk Branch III of EFED has completed the environmental fate and effects risk assessment for the proposed new uses of myclobutanil.

Application information for the proposed new uses of myclobutanil is tabulated below.

Crop	Application Rate (lb ai/A)	Number of Applications	Interval (days between application)	Maximum lb ai/A/year
Cucurbit	0.05 - 0.0625	10 - 12	7	0.6
Tomato	0.0625 - 0.1	Not specified	7	Not specified
Pome Fruit <sup>1</sup>	0.125 - 0.25	8 - 16	7 - 10	2.0
Asparagus	0.125	6	14	0.75
Snap Bean	0.1 - 0.125	5 - 8	7 - 10	0.5
Caneberries	0.03 - 0.0625	4 - 8	10 - 14	0.25
Currant/Gooseberry	0.125	8	10 - 14	0.1
Mint	0.1 - 0.125	3	14 - 21	0.375

<sup>1</sup> Expanded use on apples to include all pome fruits



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Note that the maximum number of applications is not specified for tomato. EFED is assuming that, similar to cucurbit, tomato will be applied at a maximum of 10 times per year with a 7-day interval. The maximum single application rate for tomato is 0.1 lb ai/A.

## Risk Overview

Myclobutanil is stable to hydrolysis and photolysis, and quite persistent and moderately mobile in laboratory and field study soils. Risks associated with the proposed new uses are summarized below.

	Acute High Risk	Acute Restricted Use	Acute Endangered Species	Chronic Risk
<b>Birds</b>				Pome fruit <sup>1</sup>
<b>Mammals</b>		Pome Fruit <sup>2</sup>	Pome Fruit <sup>3</sup>	Pome Fruit <sup>1</sup>
<b>Freshwater Fish</b>				
<b>Freshwater Invertebrates</b>				
<b>Estuarine/Marine Fish</b>				
<b>Estuarine/Marine Invertebrates</b>		Pome fruit	Pome fruit <sup>4</sup>	
<b>Terrestrial plants</b>	no data	no data	no data	no data

<sup>1</sup> Birds and small mammals (15g or less) feeding on short grass

<sup>2</sup> Small mammals (15g or less) feeding on short grass

<sup>3</sup> Small mammals (35 g or less) feeding on short grass and broadleaf/insects

<sup>4</sup> Currently there are no estuarine/marine endangered invertebrate species.

Overall, the low application rates and the low toxicity of myclobutanil to aquatic and terrestrial organisms did not trigger any high acute risk from the new proposed uses. However, acute risk to endangered mammals, and chronic risk to birds and mammals (therefore chronic effects to endangered birds and mammals) were noted, but limited to pome fruit use only.

## Environmental Assessment

Based on previously submitted environmental fate studies, myclobutanil is stable to hydrolysis (Subdivision N guideline 161-1) at pH 5, 7 and 9, and to photolysis in water (161-2). However, it photodegrades with a half-life of about 143 days in soil (161-3). The aerobic metabolism half-life values are 61 to 71 days (162-1), and the terrestrial field dissipation values are 92 to 292 days (164-1). Typically, half-lives from the field studies are excluded from the models, but since there is a noticeable difference between the laboratory and the field results, and since the field results are significantly higher, the average of both sets of data will be used in this

assessment. Myclobutanil has low to medium mobility in soils as indicated by the  $K_{oc}$  values (163-1) (from 224 for clay loam to 919 for silty clay) and McCall classification. Myclobutanil major degradate (1,2,4-triazole) has much lower  $K_{oc}$  values suggesting it would be more mobile than the parent compound. However, a review of the adsorption (average  $K_{ads}$  of 0.651) and desorption coefficients (average  $K_{des}$  of 1.15) indicates that this degradate may be irreversibly bound to soils and may not be as mobile as one would predict from the adsorption results alone.

### Drinking Water Assessment

Tier I surface and ground water estimated environmental concentrations (EEC) were generated using EFED GENEEC (Generic Expected Environmental Concentration) and SCI-GROW (Screening Concentration in Ground Water) models, respectively. The application information was based on hop crop, since hops have the highest use rate among all existing uses (15 applications per year and 0.65 lb ai/A per application at 14 day interval). The detailed drinking water assessment report for hops was issued by Dr. James Lin on January 13, 1998 (DP Barcode: D238936, D238937, D238939, and D238940).

EECs of Surface (GENEEC) and Ground (SCI-GROW) Water for Myclobutanil

GENEEC Peak	115 ppb
GENEEC Average 56 day	92 ppb
SCI-GROW Concentrations	2 ppb

No drinking water assessment was performed on 1,2,4 triazole due to an incomplete environmental fate database for this degradate. However, available fate data indicate that 1,2,4 triazole is more mobile than parent myclobutanil, but is also irreversibly bound to soils (see Environmental Assessment section). Therefore, 1,2,4 triazole may not enter ground water resources at any appreciable level, as one would predict from the adsorption results alone.

Based on application rates, it is not expected that the proposed new uses will result in surface and ground water EECs higher than those previously reported for hop crops.

### Estimated Environmental Concentrations (EEC)

#### Terrestrial:

The terrestrial exposure assessment is based on Hoerger and Kenaga (1972), as modified by Fletcher et al (1994). Terrestrial estimated environmental concentrations (EECs) for nongranular formulations were derived from maximum application rates that incorporated dissipation rates for myclobutanil. Uncertainties arise from lack of data on interception and dissipation from foliar surfaces. For the purpose of this assessment, since foliar dissipation rate is not available, a default half life of 30 days was used. EECs were generated for pome fruits (table

II), tomatoes (table III), and cucurbits (table IV). No EECs were generated for the new proposed IR-4 uses, due to their limited use. Instead, the EECs for IR-4 uses will be estimated based on tomato use rates. The estimated peak residues and long term residues (56-day Average) of myclobutanil found in four plant types commonly consumed by birds and mammals, following multiple applications of this chemical as proposed for the new uses, are summarized below:

Plant Species	Peak EEC <sup>1</sup> (ppm)			56-day Average EEC <sup>1</sup> (ppm)		
	<i>Pome Fruit</i>	<i>Tomato</i>	<i>Cucurbit</i>	<i>Pome Fruit</i>	<i>Tomato</i>	<i>Cucurbit</i>
Short grass	292 ppm	129 ppm	80 ppm	181 ppm	72 ppm	45 ppm
Broadleaf plants <sup>2</sup>	164 ppm	72 ppm	45 ppm	102 ppm	41 ppm	26 ppm
Tall grass	134 ppm	59 ppm	37 ppm	83 ppm	33 ppm	21 ppm
Fruits/seeds	18 ppm	8 ppm	5 ppm	11 ppm	4 ppm	3 ppm

<sup>1</sup> Initial concentration was the maximum Kenega value for the vegetation type.

<sup>2</sup> Residues on small insects may be similar to broadleaf residues because their surface area to volume ratio are similar.

Since the application rates of the new proposed IR-4 uses are lower than tomatoes, the EEC values for IR-4 uses are expected to be lower than those for tomato.

#### **Aquatic:**

The aquatic EECs presented below were generated using the GENEEC model developed by EFED. This program uses a variety of environmental fate parameters listed in table I in conjunction with the application rates of the proposed uses to approximate the maximum exposure of myclobutanil to aquatic organisms from runoff.

Crops	Appli Rate (lb ai/A)	No. of Appl.	Application Interval	Initial EEC (ppb)	21-day EEC (ppb)	56-60 day EEC (ppb)
Asparagus (IR-4 uses)	0.125	6	14	12	11	9
Cucurbits	0.0625	10	7	10	9	8
Tomato	0.1	10	7	16	14	13
Pome Fruit	0.25	8	7	36	33	29

Since GENEEC produces upper bound surface water EECs, a refined Tier II analysis was also performed for pome fruits. However, no significant difference was noted between the two sets of data, and pome fruits will be assessed based on Tier I (GENEEC) estimates.

The application rate for asparagus is the highest among the new proposed IR-4 crops; therefore asparagus EECs represent the upper limits of the estimated concentrations of myclobutanil in surface water resulting from the proposed IR-4 uses.

## Ecological Toxicity Data Summary

The following toxicity data has been reviewed in conjunction with the registration of myclobutanil.

### Terrestrial Wildlife Toxicity Data:

Common Name	%AI	Toxicity	NOEL	EPA-ID	Category
Bobwhite Quail	84.5	LD <sub>50</sub> 510 mg/kg		0144286	Core
Bobwhite Quail	84.5	LC <sub>50</sub> >5000 ppm (Avian Dietary)		0144287	Core
Mallard Duck	84.5	LC <sub>50</sub> >5000 ppm (Avian Dietary)		0144287	Core
Bobwhite Quail	94.2	LOEC >260 ppm (Avian Reproduction)	260 ppm	43087901	Supplemental
Mallard Duck	94.2	LOEC >260 ppm (Avian Reproduction)	260 ppm	43087902	Supplemental
Laboratory rat	91.9	LD <sub>50</sub> =1360 g/kg (Acute Oral)		006370	Core
Laboratory rat	84.5	LOEL=1000 ppm (2-gen. Reproduction)	200 ppm	004936	Core

### Aquatic Organism Toxicity Data:

Common Name	%AI	Toxicity	NOEL	EPA-ID	Category
Bluegill sunfish	84.5	96 HR LC <sub>50</sub> =2.4 ppm		0144285	Core
Rainbow trout	84.5	96 HR LC <sub>50</sub> =4.2 ppm		0141677	Core
Water flea	84.5	48 HR EC <sub>50</sub> =11 ppm		0141678	Core
Sheepshead minnow	93	96 HR LC <sub>50</sub> =4.7 ppm		42747903	Core
Eastern oyster	93	96 HR EC <sub>50</sub> =0.68 ppm		42747901	Supplemental
Mysid	93	96-HR LC <sub>50</sub> = 0.24 ppm		42747902	Core
Fathead minnow		Early life LOEC=2.2 ppm	0.98 ppm	0266119	Supplemental

## Risk Assessment

### Risk to Terrestrial Organisms:

Risk Quotients (RQ) were calculated for avians and mammals and presented in table II for pome fruits, table III for tomatoes, and table IV for Cucurbits and IR-4 uses.

#### *Avian*

Acute: Table II indicate that for multiple applications of myclobutanil at

maximum proposed rate (pome fruits, 0.25 lb a.i./A 8 application per year at 7-day interval), no acute level of concern (LOC) exceedance was observed. Therefore no acute risk is presumed for any of the new proposed uses.

Chronic: The RQ for pome fruits on short grass is above the level of concern (LOC = 1), however the RQs of tomato, cucurbit, and IR-4 uses are all below 1.

### ***Mammal***

Risk quotients for mammals were calculated for three separate weight classes of mammals (15, 35, and 1000g).

Acute: Table II indicates that for multiple applications of myclobutanil at maximum proposed use rates (pome fruits, 0.25 lb a.i./A, 8 application per year at 7-day intervals), acute risk to mammals is low. However, acute restricted use LOC is exceeded for small mammals (15 g body weight) consuming short grass. Acute risk to endangered species is also noted for small mammals consuming short grass (35 g body weight or less) and broadleaf plant/insect (15 g body weight). The potential of acute risk for tomato, cucurbit, and IR-4 uses is minimal.

Chronic: Chronic risk posed by multiple applications of myclobutanil on pome fruits is presumed for small mammals (15 g). No risk is presumed for tomato, cucurbit, and IR-4 uses.

### **Risk to Aquatic Organisms:**

For this risk assessment, pome fruit (apple), cucurbit (watermelon) and IR-4 (caneberry and strawberry) uses are the only crops considered to be associated with estuarine/marine aquatic animals.

#### ***Acute Risk:***

For acute risk, peak EEC values estimated from GENEEC are used to calculate the Risk Quotients (RQ). Table V summarizes the RQs associated with the proposed new uses.

Freshwater animals and Estuarine/Marine fish: No acute LOCs are exceeded for bluegill sunfish, rainbow trout, water flea, and sheepshead minnow for any of the new proposed uses.

Estuarine/marine invertebrates: Based on the highest application rate among the proposed new rates (pome fruit, 8 applications at 0.25 lb a.i./A, 7-day interval), acute restricted use risk and acute endangered species risk are presumed. However, note that there are no Federally-listed estuarine/marine endangered invertebrate species. Acute risk is minimal for cucurbit and IR-4 uses.

### *Chronic Risk:*

For chronic risk, 21-day EEC values estimated from GENEEC are used to calculate the Risk Quotients (RQ) for invertebrates, and 56-day EECs for fish. Based on the highest 21-day EEC (0.033 ppm for pome fruit) and the lowest LC<sub>50</sub> (0.24 ppm for mysid), RQs for all new proposed uses should be less than 1, and no chronic risk to aquatic organisms is presumed.

**Risk to Terrestrial Plants:** No data on toxicity of myclobutanil to terrestrial species of plants has been reviewed to date. Therefore, no conclusions regarding possible hazard to these species groups can be made at this time.

**Risk to Non-Target Insects Toxicity Data:** No data has been received for review by the Agency regarding toxicity to non-target insects. Therefore, no conclusions regarding possible hazard to these species groups can be made at this time.

**Summary Risk to Endangered Species:** Based on toxicity data and predicted environmental concentrations, chronic risk is presumed for endangered birds and small mammals from the expanded use on apples. However, minimal risk is expected to endangered invertebrates and fish. The lack of terrestrial plant data and non-target insect toxicity data precludes any determination of hazard for these species groups.

### **Risk Characterization**

Based on the RQs listed in tables II, III, IV, and V, acute high risk is minimal for all new uses of myclobutanil. However, acute risk to endangered mammals and chronic risk to endangered birds and mammals are predicted for pome fruit use. Acute restricted use is also presumed for mammals and estuarine/marine invertebrates:

- LOCs for chronic risk are exceeded for birds (RQ = 1.12 on short grass) after the 7<sup>th</sup> application; and for small mammals (15 g body weight category; RQ = 1.4 on short grass) after the 5<sup>th</sup> application.
- LOCs for acute restricted use (RQ = 0.11 on broadleaf plant, and 0.14 on short grass) and for endangered species (RQ = 0.20 on short grass) are also exceeded for small mammals (35 g and less).

Although acute and chronic effects data are used in the estimation of risk to terrestrial and aquatic organisms, these values may have some level of uncertainty associated with them, especially for terrestrial animals.

1. Due to lack of data, the LOC calculations were based on a default foliar dissipation rate of 30 days. However, myclobutanil may dissipate on foliage more rapidly than 30 days. Therefore, having an actual foliar dissipation rate information would allow refinement of the EEC estimate. But EFED believes that obtaining this additional information is probably of low value,

since the magnitude of exceedance is relatively non significant (between 1 and 1.3 for both birds and mammals), and the toxicity level of myclobutanil to birds and mammals is low.

2. Pome fruit trees are treated via broadcast applications, and interception of myclobutanil by tree foliage is very likely (thus reducing the amount of exposure on ground foliage). But the persistence of this chemical is expected to make the intercepted myclobutanil available for contamination of terrestrial environment through foliar wash off onto mammal and avian food items, especially grass. Therefore, even though the LOC exceedance was not excessive, the use of myclobutanil on pome fruit at the proposed rate presents some adverse effects to small herbivores feeding on short grass and broadleaf plant in the vicinity of the treated areas. However, note that the accumulation of myclobutanil on terrestrial animal food items are estimated assuming that each application deposits the same peak amount of residue at the same location. Consequently, the accumulation could be overestimated since it did not take into account field variability such as wind effect, change in application pattern, and rainfall. While LOC exceedances are noted for birds and mammals from pome fruit uses, uncertainty does exist in assuming chronic risk to these animals.

## **Labeling Recommendations**

### Product Label

For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not apply when weather conditions favor drift or runoff from areas treated.

## **Acknowledgment:**

The Myclobutanil review team thanks Dr. Jim Lin for providing the Tier II EEC modeling, Ms. Laura Dye for assisting in the ecological risk assessment, and Dr. Ron Bloom for performing the secondary review.



## Endangered and Threatened Species Listing:

**Small Mammals (body weight of 35g or less) in counties where pome fruits are grown.**

SPECIES	GROUP	STATUS	
BAT, GRAY	MAMMAL	E	KNOWN
BAT, INDIANA	MAMMAL	E, CH	POSSIBLE
BAT, LESSER (=SANBORN'S) LONG-NOSED	MAMMAL	E	KNOWN
BAT, OZARK BIG-EARED	MAMMAL	E	KNOWN
BAT, VIRGINIA BIG-EARED	MAMMAL	E, CH	KNOWN
KANGAROO RAT, FRESNO	MAMMAL	E, CH	KNOWN
KANGAROO RAT, GIANT	MAMMAL	E	KNOWN
KANGAROO RAT, MORRO BAY	MAMMAL	E, CH	KNOWN
KANGAROO RAT, STEPHENS'	MAMMAL	T	KNOWN
KANGAROO RAT, TIPTON	MAMMAL	E	KNOWN
MANATEE, WEST INDIAN (FLORIDA)	MAMMAL	E, CH	KNOWN
MOUSE, ALABAMA BEACH	MAMMAL	E, CH	KNOWN
MOUSE, PACIFIC POCKET	MAMMAL	E	KNOWN
MOUSE, PERDIDO KEY BEACH	MAMMAL	E, CH	KNOWN
MOUSE, SALT MARSH HARVEST	MAMMAL	E	KNOWN
SHREW, DISMAL SWAMP SOUTHEASTERN	MAMMAL	T	KNOWN
SQUIRREL, CAROLINA NORTHERN FLYING	MAMMAL	E	KNOWN
SQUIRREL, DELMARVA PENINSULA FOX	MAMMAL	E, XN	KNOWN
SQUIRREL, MOUNT GRAHAM RED	MAMMAL	E, CH	KNOWN
SQUIRREL, VIRGINIA NORTHERN FLYING	MAMMAL	E	KNOWN
VOLE, AMARGOSA	MAMMAL	E, CH	KNOWN
VOLE, HUALAPAI MEXICAN	MAMMAL	E	KNOWN

## Endangered and Threatened Species Listing (continued):

### Birds in counties where pome fruits are grown.

CONDOR, CALIFORNIA	BIRD	E, CH	POSSIBLE
CRANE, WHOOPING	BIRD	E, CH	KNOWN
CURLEW, ESKIMO	BIRD	E	POSSIBLE
EAGLE, BALD	BIRD	T	KNOWN
FALCON, AMERICAN PEREGRINE	BIRD	E, CH	POSSIBLE
FALCON, ARCTIC PEREGRINE	BIRD	T	POSSIBLE
FALCON, NORTHERN APLOMADO	BIRD	E	KNOWN
FALCON, PEREGRINE	BIRD	E, SA	KNOWN
FLYCATCHER, SOUTHWESTERN WILLOW	BIRD	E, CH	POSSIBLE
GNATCATCHER, COASTAL CALIFORNIA	BIRD	T	KNOWN
GOOSE, ALEUTIAN CANADA	BIRD	T	POSSIBLE
JAY, FLORIDA SCRUB	BIRD	T	KNOWN
KITE, EVERGLADE SNAIL	BIRD	E, CH	POSSIBLE
MURRELET, MARBLED	BIRD	T/CH	POSSIBLE
OWL, MEXICAN SPOTTED	BIRD	T	POSSIBLE
OWL, NORTHERN SPOTTED	BIRD	T, CH	KNOWN
PELICAN, BROWN	BIRD	E	KNOWN
PLOVER, PIPING	BIRD	E, T	KNOWN
PLOVER, WESTERN SNOWY	BIRD	T	KNOWN
PYGMY-OWL, CACTUS FERRUGINOUS	BIRD	E	KNOWN
RAIL, CALIFORNIA CLAPPER	BIRD	E	KNOWN
RAIL, LIGHT-FOOTED CLAPPER	BIRD	E	KNOWN
RAIL, YUMA CLAPPER	BIRD	E	KNOWN
SHRIKE, SAN CLEMENTE LOGGERHEAD	BIRD	E	KNOWN
SPARROW, SAN CLEMENTE SAGE	BIRD	T	KNOWN
STORK, WOOD	BIRD	E	KNOWN
TERN, CALIFORNIA LEAST	BIRD	E	KNOWN
TERN, INTERIOR (POPULATION) LEAST	BIRD	E	KNOWN
TERN, ROSEATE	BIRD	E, T	KNOWN
TOWHEE, INYO BROWN	BIRD	T, CH	KNOWN
VIREO, BLACK-CAPPED	BIRD	E	KNOWN
VIREO, LEAST BELL'S	BIRD	E, CH	KNOWN
WARBLER (WOOD), BACHMAN'S	BIRD	E	POSSIBLE
WARBLER (WOOD), GOLDEN-CHEEKED	BIRD	E	KNOWN
WARBLER (WOOD), KIRTLAND'S	BIRD	E	KNOWN
WARBLER, BACHMAN'S	BIRD	E	POSSIBLE
WOODPECKER, RED-COCKADED	BIRD	E	KNOWN

Table I  
Summary of Selected Environmental Fate Properties for Myclobutanil

Property	Range	Value used in assessment	Model
Solubility (water)	142 mg/L	142 mg/L	GENEEC
Hydrolysis $t_{1/2}$	stable at pH 5, 7 and 9	stable - (0 day)	GENEEC
Aquatic Photolysis $t_{1/2}$	stable	stable - (0 day)	GENEEC
Aerobic Soil Metabolism $t_{1/2}$	61-71 days in silt loam, but degradation rates slowed after increasing aging, and after 240 days, 34-37% of parent was still present.	see Terrestrial Field Dissipation	GENEEC
Foliar Dissipation $t_{1/2}$	no data	30 days (default)	FATE
Terrestrial Field Dissipation $t_{1/2}$	292 days in sandy loam, 92 days in loam soil	129 days = average of aerobic soil metabolism half-lives and terrestrial field dissipation half-lives	GENEEC/ SCI-GROW
Anaerobic Soil Metabolism $t_{1/2}$	no appreciable degradation in 62 days	not considered	
Aerobic Aquatic Metabolism $t_{1/2}$	no data	(0 day)	GENEEC
$K_{ad}$	1.46, 2.39, 4.44, 7.08, 9.77	see $K_{oc}$ values	
$K_{oc}$	224, 265, 581, 595, 936	581 = median	GENEEC/ SCI-GROW

**Table II**  
**Terrestrial Risk Quotient Summary - Pome Fruits**

Chemical Name:  
 Use  
 Formulation

**Myclobutanil**  
 pome fruit  
 dry flowable

Application Rate  
 Half-life  
 Frequency of Application  
 Maximum # Apps./Year

**Inputs**  
 0.25 lbs a.i./acre  
 30 days  
 7 days  
 3

**Outputs**

Short Grass  
 Tall Grass  
 Broadleaf plants/Insects  
 Seeds

	Maximum Concentration (PPM)	56 Day Average Concentration (PPM)	
Short Grass	291.61	181.33	
Tall Grass	133.66	83.11	# days
Broadleaf plants/Insects	164.03	102.00	Exceeded
Seeds	18.23	11.33	on short grass (in first 56)

**Avian**

Acute LC50 (ppm)	5000	0
Chronic NOAEC (ppm)	260	7

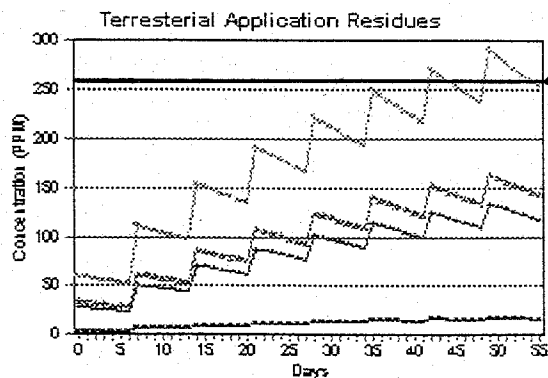
Acute RQ	Chronic RQ (Max. res. mult. apps.)	
Short Grass	0.06	1.12
Tall Grass	0.03	0.51
Broadleaf plants/Insects	0.03	0.63
Seeds	0.00	0.07

Short Grass  
 Tall Grass  
 Broadleaf plants/Insects  
 Seeds

**Mammalian**

Acute LD50 (mg/kg)	1360	0
Chronic NOAEL (mg/kg)	200	25

	15 g mammal		35 g mammal		1000 g mammal	
	Acute RQ (mult. apps.)	Chronic RQ (Max. res. mult. apps.)	Acute RQ (mult. apps.)	Chronic RQ (Max. res. mult. apps.)	Acute RQ (mult. apps.)	Chronic RQ (Max. res. mult. apps.)
Short Grass	0.20	1.39	0.14	0.96	0.03	0.22
Tall Grass	0.09	0.63	0.06	0.44	0.01	0.10
Broadleaf plants/Insects	0.11	0.78	0.08	0.54	0.02	0.12
Seeds	0.01	0.09	0.01	0.06	0.00	0.01



Short Grass  
 Tall Grass  
 Broadleaf plants/Insects  
 Seeds

Table III  
Terrestrial Risk Quotient Summary - Cucurbits

Chemical Name:  
Use  
Formulation

Myctobutanil  
cucurbits  
dry flowable

### Inputs

Application Rate  
Half-life  
Frequency of Application  
Maximum # Apps./Year

0.0025	lbs a.i./acre
30	days
1	days
10	

### Outputs

	Maximum Concentration (PPM)	56 Day Average Concentration (PPM)	
Short Grass	80.52	45.33	
Tall Grass	36.90	20.78	# days
Broadleaf plants/Insects	45.29	25.50	Exceeded
Seeds	5.03	2.83	on short grass (in first 56)

### Avian

Acute LC50 (ppm)	5000	0
Chronic NOAEC (ppm)	260	0

Acute RQ	Chronic RQ (Max. res. mult. apps.)	
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Short Grass	0.02	0.31	
Tall Grass	0.01	0.14	# days
Broadleaf plants/Insects	0.01	0.17	Exceeded
Seeds	0.00	0.02	on short grass (in first 56)

### Mammalian

Acute LD50 (mg/kg)	1360	0
Chronic NOAEL (mg/kg)	200	0

	15 g mammal		35 g mammal		1000 g mammal	
	Acute RQ (mult. apps.)	Chronic RQ (Max. res. mult. apps.)	Acute RQ (mult. apps.)	Chronic RQ (Max. res. mult. apps.)	Acute RQ (mult. apps.)	Chronic RQ (Max. res. mult. apps.)
Short Grass	0.06	0.38	0.04	0.27	0.01	0.06
Tall Grass	0.03	0.18	0.02	0.12	0.00	0.03
Broadleaf plants/Insects	0.03	0.22	0.02	0.15	0.00	0.03
Seeds	0.00	0.02	0.00	0.02	0.00	0.00

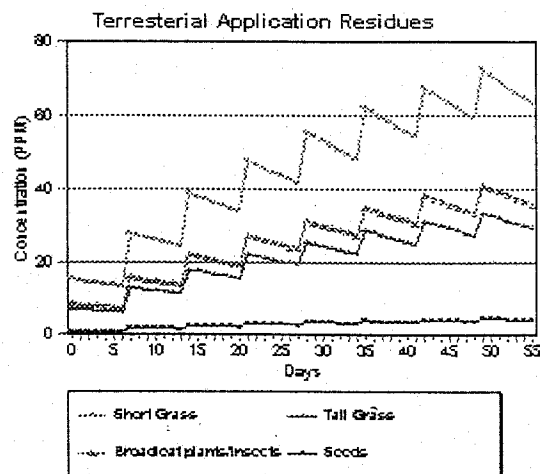


Table IV  
Terrestrial Risk Quotient Summary - Tomatoes

Chemical Name:  
Use  
Formulation

**Myclobutanil**

tomato  
dry flowable

### Inputs

Application Rate  
Half-life  
Frequency of Application  
Maximum # Apps./Year

0.1	lbs a.i./acre
30	days
7	days
10	

### Outputs

	Maximum Concentration (PPM)	56 Day Average Concentration (PPM)	
Short Grass	128.82	72.53	
Tall Grass	59.04	33.24	# days
Broadleaf plants/insects	72.46	40.80	Exceeded
Seeds	8.05	4.53	on short grass (in first 56)

### Avian

Acute LC50 (ppm)	5000	0
Chronic NOAEC (ppm)	266	0

Acute RQ	Chronic RQ (Max. res. mult. apps.)	
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Short Grass	0.03	0.50	
Tall Grass	0.01	0.23	# days
Broadleaf plants/insects	0.01	0.28	Exceeded
Seeds	0.00	0.03	on short grass (in first 56)

### Mammalian

Acute LD50 (mg/kg)	1360	0
Chronic NOAEL (mg/kg)	296	0

	15 g mammal		35 g mammal		1000 g mammal	
	Acute RQ (mult. apps.)	Chronic RQ (Max. res. ) mult. apps.)	Acute RQ (mult. apps.)	Chronic RQ (Max. res. ) mult. apps.)	Acute RQ (mult. apps.)	Chronic RQ (Max. res. ) mult. apps.)
Short Grass	0.09	0.61	0.06	0.43	0.01	0.10
Tall Grass	0.04	0.28	0.03	0.19	0.01	0.04
Broadleaf plants/insects	0.05	0.34	0.04	0.24	0.01	0.05
Seeds	0.01	0.04	0.00	0.03	0.00	0.01

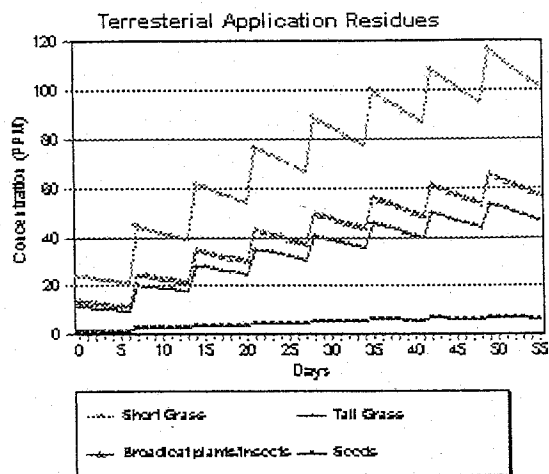


Table V  
Aquatic Risk Quotient Summary

Species	LC <sub>50</sub> or EC <sub>50</sub> (ppm)	Peak GENEEC EEC (ppm)				RQ			
		Asparagus (IR-4)	Cucurbit	Tomato	Pome Fruit	Asparagus (IR-4)	Cucurbit	Tomato	Pome Fruit
Bluegill sunfish	2.4	0.012	0.010	0.016	0.036	<0.05	<0.05	<0.05	<0.05
Rainbow trout	4.2	0.012	0.010	0.016	0.036	<0.05	<0.05	<0.05	<0.05
Daphnia (Water flea)	11	0.012	0.010	0.016	0.036	<0.05	<0.05	<0.05	<0.05
Sheepshead minnow	4.7	0.012	0.010	0.016	0.036	<0.05	<0.05	<0.05	<0.05
Eastern oyster	0.68	0.012	0.010	0.016	0.036	<0.05	<0.05	<0.05	0.052
Mysid	0.24	0.012	0.010	0.016	0.036	<0.05	<0.05	0.07 <sup>1</sup>	0.15 <sup>2</sup>

<sup>1</sup> Tomato use is not associated with estuarine/marine habitat based on regionally specific usage for myclobutanil.

<sup>2</sup> Currently, there is no estuarine/marine endangered species.

DP BARCODE: D260065

CASE: 048188  
SUBMISSION: S551681

DATA PACKAGE RECORD  
BEAN SHEET

DATE: 10/08/99  
Page 1 of 1

\* \* \* CASE/SUBMISSION INFORMATION \* \* \*

CASE TYPE: REGISTRATION ACTION: 305 TECH-LBL REV AMND DATA RE  
RANKING : 0 POINTS ()  
CHEMICALS: 128857 Myclobutanil (ANSI) 40.0000%

ID#: 000707-00221 NOVA 40 W AGRICULTURAL FUNGICIDE IN 5 OZ. WATER SOLUBLE  
COMPANY: 000707 ROHM & HAAS CO  
PRODUCT MANAGER: 21 MARY WALLER 703-308-9354 ROOM: CM2 249  
PM TEAM REVIEWER: MARY WALLER 703-308-9354 ROOM: CM2 249  
RECEIVED DATE: 10/22/98 DUE OUT DATE: 04/30/99

\* \* \* DATA PACKAGE INFORMATION \* \* \*

DP BARCODE: 260065 EXPEDITE: Y DATE SENT: 10/06/99 DATE RET.: / /  
CHEMICAL: 128857 Myclobutanil (ANSI)  
DP TYPE: 001 Submission Related Data Package  
CSF: Y LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 03/04/00
DIV : EFED	10/08/99	02/08/00	NEGOT DATE: / /
BRAN: 10/08/99	10/08/99	02/08/00	PROJ DATE: / /
SECT: IO	10/08/99	02/08/00	
REVR: 10/08/99	10/08/99	02/08/00	
CONTR: 10/08/99	10/08/99	02/08/00	

\* \* \* DATA REVIEW INSTRUCTIONS \* \* \*

DRINKING WATER ASSESSMENT - MYCLOBUTANIL FY 2000 WORKPLAN

Please provide a drinking water assessment for myclobutanil.  
Please note that there are new uses (cucurbits & tomatoes)  
and the expanded use to include the entire pome fruit crop  
group on the attached proposed labels. I have attached the  
labels for EPA reg. #'s 707-221 & 707-215. If you need any  
additional information, please let me know.

Thanks. Mary Waller 308-9354

\* \* \* DATA PACKAGE EVALUATION \* \* \*

No evaluation is written for this data package

\* \* \* ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION \* \* \*

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
260111	IO/IO	10/08/99	03/06/00	Y	Y	Y



DP BARCODE: D260111

CASE: 048188  
SUBMISSION: S551681

DATA PACKAGE RECORD  
BEAN SHEET

DATE: 10/08/99  
Page 1 of 1

\*\*\* CASE/SUBMISSION INFORMATION \*\*\*

CASE TYPE: REGISTRATION      ACTION: 305 TECH-LBL REV AMND DATA RE  
RANKING : 0 POINTS ()  
CHEMICALS: 128857 Myclobutanil (ANSI)      40.0000%  
ID#: 000707-00221      NOVA 40 W AGRICULTURAL FUNGICIDE IN 5 OZ. WATER SOLUBLE  
COMPANY: 000707 ROHM & HAAS CO  
PRODUCT MANAGER: 21 MARY WALLER      703-308-9354      ROOM: CM2      249  
PM TEAM REVIEWER: MARY WALLER      703-308-9354      ROOM: CM2      249  
RECEIVED DATE: 10/22/98      DUE OUT DATE: 04/30/99

\*\*\* DATA PACKAGE INFORMATION \*\*\*

DP BARCODE: 260111      EXPEDITE: Y      DATE SENT: 10/08/99      DATE RET.: / /  
CHEMICAL: 128857 Myclobutanil (ANSI)  
DP TYPE: 001 Submission Related Data Package  
CSF: Y      LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 03/06/00
DIV : EFED	10/08/99	02/08/00	NEGOT DATE: / /
BRAN: 10ERB3	10/08/99	02/08/00	PROJ DATE: / /
SECT: IO	10/08/99	02/08/00	
REVR : <i>Thuy</i>	10/02/99	02/08/00	
CONTR:	/ /	/ /	

\*\*\* DATA REVIEW INSTRUCTIONS \*\*\*

RISK ASSESSMENT - MYCLOBUTANIL - FY 2000 WORKPLAN

Please provide a risk assessment for the new uses (tomatoes, cucurbits), and the expanded use on apples to include all pome fruits. Please note that many new proposed IR-4 uses have been added to the label (asparagus, caneberry, currants, goseberries, mint, snap beans and strawberries). Attached are copies of proposed new labels for EPA reg. 707-221, & 215. If you need any additional information, please call me. Thanks. Mary Waller 308-9354

\*\*\* DATA PACKAGE EVALUATION \*\*\*

No evaluation is written for this data package

\*\*\* ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION \*\*\*

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
260065	IO/IO	10/06/99	03/04/00	Y	Y	Y